

REPLY

Serial No. 09/808,558
Atty. Docket No. GP068-05.CN3Amendments to the Claims

422. (Currently Amended) An oligonucleotide for determining the presence of a nucleic acid analyte in a sample comprising a first and second base region regions having at least one ribonucleotide modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety, and a second base region, wherein the first and second base regions hybridize capable of hybridizing to each other under nucleic acid assay conditions to form a hybrid containing at least one ribonucleotide modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety, wherein the hybrid is more stable than a hybrid formed between unmodified forms of the first and second base regions, and wherein the oligonucleotide forms a hybrid with the nucleic acid analyte but not with a non-targeted nucleic acid under nucleic acid assay conditions, such that the nucleic acid analyte can be detected.

423. (Currently Amended) The oligonucleotide of claim 422, wherein that portion of the first base region capable of forming a hybrid with the second base region under nucleic acid assay conditions includes a cluster of at least about 4 ribonucleotides modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety.

424. (Currently Amended) The oligonucleotide of claim 422, wherein that portion of the first base region capable of forming a hybrid with the second base region under nucleic acid assay conditions includes at least one nucleotide which is not a ribonucleotide modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety.

425. (Currently Amended) The oligonucleotide of claim 422, wherein each nucleotide of that portion of the first base region capable of forming a hybrid with the second base region under nucleic acid assay conditions is a ribonucleotide modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety.

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426. (Previously Added) The oligonucleotide of claim 422, wherein each nucleotide of the oligonucleotide is a ribonucleotide modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety.

427. (Previously Added) The oligonucleotide of claim 422, wherein the oligonucleotide includes a conjugate molecule.

428. (Previously Added) The oligonucleotide of claim 423, wherein the oligonucleotide includes a conjugate molecule joined to the oligonucleotide at a site located within the cluster of the first base region.

429. (Currently Amended) The oligonucleotide of claim 422, wherein the oligonucleotide is ~~up to about~~ between 10 and 100 bases in length.

430. (Previously Added) The oligonucleotide of claim 422, wherein the oligonucleotide includes a reporter group.

431. (Previously Added) The oligonucleotide of claim 430, wherein the reporter group comprises a fluorescent molecule.

432. (Previously Added) The oligonucleotide of claim 422, wherein the nucleic acid analyte comprises RNA.

433. (Previously Added) The oligonucleotide of claim 432, wherein the nucleic acid analyte comprises ribosomal RNA.

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434. (Previously Added) The oligonucleotide of claim 422, wherein the oligonucleotide is a hybridization assay probe which forms a detectable hybrid with the nucleic acid analyte.

435. (Previously Added) The oligonucleotide of claim 422, wherein the oligonucleotide is an amplification primer for use in an amplification procedure.

436. (Previously Added) The oligonucleotide of claim 435, wherein the amplification procedure is a polymerase chain reaction method of amplification.

437. (Previously Added) The oligonucleotide of claim 435, wherein the amplification procedure is a transcription-based method of amplification.

438. (Previously Added) The oligonucleotide of claim 422, wherein the oligonucleotide is a target capture oligonucleotide.

439. (Previously Added) The oligonucleotide of claim 438, wherein the target capture oligonucleotide is immobilized by a solid support.

440. (Previously Added) The oligonucleotide of claim 422, wherein the 2'-O-alkyl substitution to the ribofuranosyl moiety is a 2'-O-methyl substitution.

441. (Currently Amended) A method for determining the presence of a nucleic acid analyte in a sample, the method comprising the steps of:

- a) providing to the sample ~~an~~ the oligonucleotide of claim 422, comprising:
 - i) ~~a first base region having at least one ribonucleotide modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety; and~~

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~~ii) a second base region, wherein the first and second base regions hybridize to each other under nucleic acid assay conditions to form a hybrid more stable than a hybrid formed between unmodified forms of the first and second base regions, and wherein the oligonucleotide forms a hybrid with the nucleic acid analyte but not with a non-targeted nucleic acid in the sample under nucleic acid assay conditions, such that the nucleic acid analyte can be detected;~~

b) incubating the sample under conditions such that the oligonucleotide hybridizes to the nucleic acid analyte, if present; and

c) determining whether the oligonucleotide has hybridized to the nucleic acid analyte.

442. (Currently Amended) The method of claim 441, wherein that portion of the first base region capable of forming a hybrid with the second base region under nucleic acid assay conditions includes a cluster of at least about 4 ribonucleotides modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety.

443. (Currently Amended) The method of claim 441, wherein that portion of the first base region capable of forming a hybrid with the second base region under nucleic acid assay conditions includes at least one nucleotide which is not a ribonucleotide; modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety.

444. (Currently Amended) The method of claim 441, wherein each nucleotide of that portion of the first base region capable of forming a hybrid with the second base region under nucleic acid assay conditions is a ribonucleotide modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety.

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445. (Withdrawn) The method of claim 441, wherein each nucleotide of the oligonucleotide is a ribonucleotide modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety.

446. (Withdrawn) The method of claim 441, wherein the oligonucleotide includes a conjugate molecule.

447. (Withdrawn) The method of claim 442, wherein the oligonucleotide includes a conjugate molecule joined to the oligonucleotide at a site located within the cluster of the first base region.

448. (Currently Amended) The method of claim 441, wherein the oligonucleotide is ~~up to about~~ between 10 and 100 bases in length.

449. (Withdrawn) The method of claim 441, wherein the oligonucleotide includes a reporter group.

450. (Withdrawn) The method of claim 449, wherein the reporter group comprises a fluorescent molecule.

451. (Withdrawn) The method of claim 441, wherein the nucleic acid analyte comprises RNA.

452. (Withdrawn) The method of claim 451, wherein the nucleic acid analyte comprises ribosomal RNA.

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453. (Withdrawn) The method of claim 441, wherein the oligonucleotide is a hybridization assay probe which forms a detectable hybrid with the nucleic acid analyte.

454. (Withdrawn) The method of claim 441, wherein the oligonucleotide is an amplification primer used in an amplification procedure.

455. (Withdrawn) The method of claim 454, wherein the amplification procedure is a polymerase chain reaction method of amplification.

456. (Withdrawn) The method of claim 454, wherein the amplification procedure is a transcription-based method of amplification.

457. (Withdrawn) The method of claim 441, wherein the oligonucleotide is a target capture oligonucleotide.

458. (Withdrawn) The method of claim 457, wherein the target capture oligonucleotide is immobilized by a solid support.

459. (Withdrawn) The method of claim 441 further comprising the step of quantifying the nucleic acid analyte determined to be present in the sample.

460. (Withdrawn) The method of claim 454 further comprising the step of quantifying the nucleic acid analyte determined to be present in the sample.

461. (Currently Amended) The method of claim 441, wherein step c) is indicative of the presence or absence of ~~an organism or one or more members of a group of organisms~~ at least one microorganism or virus in the sample.

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462. (Withdrawn) The method of claim 441, further comprising the step of providing to the sample a nuclease inhibitor other than a polynucleotide modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety of a ribonucleotide.

463. (Withdrawn) The method of claim 441, wherein the 2'-O-alkyl substitution to the ribofuranosyl moiety is a 2'-O-methyl substitution.

464. (New) The oligonucleotide of claim 432, wherein a target sequence contained within the nucleic acid analyte includes a double-stranded region.

465. (New) The method of claim 451, wherein a target sequence contained within the nucleic acid analyte includes a double-stranded region.